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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/809,468
Filing Date: March 15, 2001
Appellant(s): WHOLEY ET AL.

Matthew W. Gordon
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10 April 2008 appealing from the Office action mailed 22 January 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,406,786	HEIN	09-1983
4,399,042	STANNARD	08-1983
6,059,745	GELBFISH	05-2000
6,416,665	McGRATH	07-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,406,786 to Hein in view of US 4,399,042 to Stannard et al.

In the specification and figures, Hein discloses the apparatus substantially as claimed by Appellant. In particular, Hein discloses a filter device with an elongated chamber (1, 3, 6), a paddle assembly 5 disposed within the chamber, a porous floor 8 disposed within and extending across the chamber, and means for coupling (2, 7) the filter device to an artery and a vein (see columns 3-4, FIG 2).

With regard to Appellant's "means for coupling" of claim 1, the language appears to be an attempt to invoke 35 USC 112, 6th paragraph interpretation of the claims. A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for " or "step for; "

(B) the "means for " or "step for " must be modified by functional language; and

(C) the phrase "means for " or "step for " must not be modified by sufficient structure, material or acts for achieving the specified function.

In the instant case, Appellant appears to have met the limitations set forth in MPEP § 2181, and examiner has turned to the specification for Appellant's definition.

35 U.S.C. § 112, sixth paragraph states that a claim limitation expressed in means-plus-function language "shall be construed to cover the corresponding structure…described in the specification and equivalents thereof." (MPEP § 2181). Appellant's specification discloses that tubes 21 and 33 connect to the filter and, in turn, are connectable to patient blood vessels. Hein discloses that the ends of his filter device comprise tubes 2, 7, which perform the same function as the claimed "means for coupling," since both structures channel fluid from a source through the filter and back out. Therefore, examiner considers Hein's tubes 2, 7, to be the functional equivalent of Appellant's "means for coupling," meeting the limitations of the claim.

Hein fails to disclose porous paddles. With regard to claims 2 and 3, Stannard discloses a filter apparatus with a porous filter bed 26 and paddles or blades 44 that agitate the fluid in the filter chamber and scrape the particulate material from the filter bed (see column 4, FIGS 4-5). The blades are mounted on and rotate about a vertical shaft 42 that supports the blades (see column 5, lines 40-45), and may comprise a porous structure that allows water or fluid to pass through them while retaining the

solids in the filtered fluid (see column 6, lines 26-38). The paddles have a front and a back surface (see FIG 6) and horizontal holes 160 drilled in the blade 152 (see FIG 10) in order to assist in removal of filter cakes from the apparatus (see column 6, lines 15-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the agitating means or paddles disclosed by Hein with porous surfaces and a rotator shaft as disclosed by Stannard in order assist in removal of filter cakes from the apparatus, as taught by Stannard (see column 6, lines 15-20).

With regard to claim 2, Stannard illustrates a vertical axis 42 and paddles 94 extending therefrom (see FIG 6). With regard to Appellant's recitation of "micro pores," examiner has interpreted the limitation (absent any specific allusion to size in the specification) to mean small pores that allow only fluid to pass through, while retaining clots. ("Micro" is broadly interpreted by the examiner to merely mean "very small." See Merriam Webster's Collegiate Dictionary, 10th Ed, 2001.) Stannard specifically discloses that the porosity of the blades are selected to allow fluid to pass, but not particulate matter. Since the Stannard device functions in the same manner as claimed by Appellant, and Appellant fails to disclose the size of the claimed "micro pores," the combined Hein and Stannard disclosures meet the limitation of the claim.

With regard to claim 3, Stannard illustrates a vertical shaft 186 that extends from porous floor 172along the axis of the filter chamber (see FIG 11).

With regard to claim 4, Hein discloses a cylindrical chamber with a proximal end 1 and a distal end 6, wherein the filter bed 4 is disposed at distal end 6 (see FIG 1).

With regard to claim 5, Stannard specifically discloses that the filter bed may filter particulate matter from a fluid flowing past the filter. Since the filter disclosed by Hein and Stannard is capable of performing the filtering function claimed by Appellant, it meets the limitations of the claim.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,406,786 to Hein in view of US 4,399,042 to Stannard et al, as applied above, further in view of US 6,059,745 to Gelbfish.

In the specification and figures, Hein and Stannard disclose the apparatus as claimed by Appellant with the exception of one-way valves at the inlet and outlet of the filter device. Gelbfish discloses a thrombectomy apparatus with an anterior inlet end (generally at 18) and a distal outlet end (generally at 14) and a filter chamber 21 with a porous filter 20 disposed in the chamber to trap blood clots. The device comprises one way-valves 30 and 32 in the anterior and distal ends of the device in order to prevent backflow of trapped clots to the patient (see column 6, lines 35-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the one-way valves disclosed by Gelbfish to the filtration apparatus disclosed by Hein and Stannard in order to prevent backflow of debris to the patient, as taught by Gelbfish.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,406,786 to Hein in view of US 4,399,042 to Stannard et al, in view of US 6,059,745 to Gelbfish, as applied above, further in view of US 6,416,665 to McGrath.

In the specification and figures, Hein, Stannard, and Gelbfish disclose the device as claimed with the exception of a motor or engine that drives the shaft. Stannard specifically discloses that the device may comprise drive motor 218, but does not disclose that it comprises a separate shaft that is coupled to blade shaft 42. McGrath discloses a filtration apparatus wherein a filtration membrane 4 is mounted on axis 5 and rotated about chamber 3. The axis 5 is coupled by a pulley 8 to a shaft (unlabeled) that is driven by motor 9 (see FIG 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the motor and drive system disclosed by McGrath to the filtration system disclosed by Hein, Stannard, and Gelbfish in order to provide rotational motion to the axis and filtration membrane, as taught by McGrath.

Claims 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose or suggest the invention claimed by Appellant. In particular, the prior art fails to disclose a filter as set forth in the independent claim with a cylindrical housing, a porous floor, porous paddles, valves, drive motor and shaft as

claimed, and coupling structure as claimed, along with the other steps and limitations of the claims.

(10) Response to Argument

Appellant argues that the applied prior art references do not render obvious all the limitations under 35 USC § 103(a). In particular, Appellant argues that the combination of Hein and Stannard fail to disclose an apparatus with porous paddles wherein the pores extend through the thickness of the blade.

Appellant points to Stannard FIG 6 showing a thickness of the blade and Stannard FIG 10 showing transverse view of the thickness of the blade. However, Stannard never discloses that the embodiments of the blade in figs 7-10 comprise a cross-section or transverse view of the *thickness* of the blade. It is the position of the Examiner that the embodiments in FIGS 7-10 show the *face* of the blade, wherein the left side (154 in FIG 10) is located at the periphery of the filter housing with right side (156 in FIG 10) is attached to rotating tube 92. In this interpretation, the holes 160 extend through the thickness of the blade.

Assuming, *arguendo*, that Appellant's interpretation of FIGS 7-10 to show the cross section of a thickness of the blade, Stannard discloses that pores extend from leading edge 154 to trailing edge 156 in FIG 10. Specifically, Stannard discloses that the scraper blade in FIG 10 comprises horizontal holes 160 and transverse holes 162 drilled therein (see FIG 10, column 6, lines 15-25). As such, regardless of which direction one interprets the thickness of the blade to extend, holes extend in both

directions through the blade, meeting Appellant's claim limitation drawn to pores that extend through the thickness of the paddle.

Appellant further argues that one skilled in the field of medical devices would not look to the field of laboratory pressure filtering devices (Hein) or wastewater treatment sludge (Stannard) for teachings or suggestions as to the design of medical device filters. The Examiner respectfully disagrees. While pressure filter devices and sludge filters are not necessarily within the medical field, both devices deal with the process of filtering fluid, which is essentially the function of a thrombectomy device. Both the instant invention and the prior art separate solids from liquids by passing a stream of fluid through a semipermeable membrane, solving the common problem of removing debris from a solution. One of ordinary skill in the art would be motivated to turn to the teachings of fluid filtration devices in all disciplines in order to solve the problems found in other fluid filtration devices. Since the instant invention and the prior art are directed to solving the same problem, the application of the cited art to the instantly claimed invention is proper.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

//Leslie R. Deak//

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